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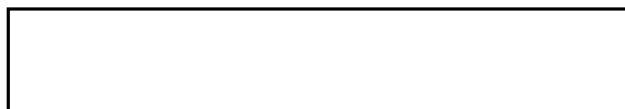
DD/S&T# 3226-68/1

26 AUG 1968

MEMORANDUM FOR: Deputy Director for Science and  
Technology

SUBJECT: Oettinger Committee Report

Attached are OSI comments on the Subject draft  
report.



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DONALD F. CHAMBERLAIN  
Director of Scientific Intelligence

Attachment:  
As stated above

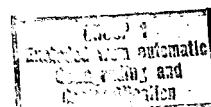
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Comments on Oettinger Committee Report

In its summary the Oettinger Committee report arrives at a reasonable conclusion based on a thorough study of the direct applications of various types of computers to strategic military applications. A graded range of US responses does appear to be the only reasonable answer. Economic implications are justifiably placed behind the military impact, and only the most significant military applications are considered. The remarks made concerning Soviet computer capabilities and the military computer situation, however, appear to be somewhat indefinite and based on uncertain analyses of the limited amount of available intelligence information.

The introduction identifies the major problems to be considered including the importance of software, the wide variety of possible computer applications, and the fact that no clear-cut criterion separates military and non-military computers. This last problem stated on page 3 is very important in determining the usefulness of general purpose machine, such as the British computers, to military systems. The software question is particularly important with regard

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to multicomputer military systems. Since the British proposal may involve software support, this subject should probably be discussed in detail in the ABM or Command and Control sections.

The section on leakage and the lead-time question beginning on page 4 includes reasonable estimates of the time required by the Soviets to begin manufacture of integrated circuit computers. It would perhaps have been useful to include some estimates given by US manufacturers on quantities of useful technology entering the USSR.

The sections on military computer applications include many useful quantitative statements concerning computer requirements for various military systems. Using the BESM-6 as a basis is reasonable. In the Nuclear Warhead section on page 8 the statement that the BESM-6 could probably be used for sophisticated weapon design is supported since the BESM-6 is known to have been used for solving hydrodynamics problems which are similar in complexity to nuclear weapons design problems. On page 10 of the ABM section the statement that the Soviet investment in BESM-6's has already been made is not convincing since so few BESM-6's have been produced. The section on computers in communications intelligence beginning on page 11, particularly the second paragraph may include information with a higher classification than SECRET.

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In the Peaceful Use section a point is emphasized on page 13 that manufacturers have powerful means to monitor computer usage and to prevent military uses of Western computers. This is based primarily on imported computers and would not necessarily apply to Western computers manufactured in the USSR whose end uses would be difficult to control. The ability of Western manufacturers to stop parts shipment to prevent military use does not appear to be a really powerful weapon. The Soviets have the laboratory equipment and have demonstrated the capability to fabricate a very limited number of advanced components such as integrated or hybrid circuits. It would appear reasonable to assume that the Soviets could make satisfactory substitutions with these homemade parts to maintain a few computers in a high priority military system. This would apply to both imported and internally manufactured Western computers. Also, for the internally manufactured machines many of the necessary components would be produced internally.

The section on Soviet reliability, particularly on pages 15 and 16, gives the impression that inadequate maintenance is the prime basis for poor computer reliability. While Soviet maintenance techniques are primitive and parts are often unavailable, this situation does not explain low performance peripheral equipment such as tape drives using poor quality tape nor does it explain the numerous component failures due to temperature, faulty solder connections on new

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machines, etc. Many of these failures can be traced to poor quality control and generally poor production techniques. Unfortunately it is improved production technology which the British are proposing to the Soviets. This point should be emphasized considerably more in the Committee report. Comparisons with Western equipment which has failed due to poor Soviet maintenance does not fully explain the unsatisfactory performance of Soviet domestic equipment.

Answers to many of the open questions listed on pages 19 and 20 could have been obtained if an organized effort to approach the appropriate US intelligence sources had been made with careful security arrangements. Apparently the limited amount of time available prevented such an organized effort. Although improved collection methods are needed for covering the Soviet computer and semiconductor areas, a respectable amount of information and intelligence can be made available if enough time is given by the Committee to retrieve it.

One possibly severe factual error appears on page 2 and 21 and page 2 of the summary of the report. The statement is made that the Soviets plan to produce in about three years a series of computers "capable of using IBM 360 software and peripheral equipment" or simply "compatible" with the IBM 360 series. While this may be true, our evidence does not specifically state this. There are, however, reports that mention that the

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this new series of computers will have software compatibility between machines "as in the IBM 360" rather than with the IBM 360 series or using IBM software. These statements in the report should be checked.

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